

Argonne takes three 'R&D 100 Awards'

Three Argonne technologies are among those chosen by *R&D Magazine* as the top 100 developments of the year.

The three awards make a total of 70 Argonne inventions that have placed in *R&D's* list of "the most significant technical products of the year."

One development, an ultrahard coating many times slicker than Teflon, was also among developments cited by *Discover* magazine. The new coating was developed by Ali Erdemir and George Fenske (both



SUPER COATING — Ali Erdemir (ET) tests a sample of a new coating.

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ET), and visiting scientist Osman Eryilaz.

The most promising applications for the coating, which may have the lowest coefficient of friction of any carbon-based material in the world, are in automobile and engine parts, such as turbocharger rotors and fuel injector components. Other potential applications include oilless bearings, spacecraft mechanisms, rolling and sliding gear systems, and bearings of ultrahigh vacuum instruments.

The coating has exceptional wear resistance and durability, with a coefficient of friction less than .001 — twenty times lower than the previous record holder.

Two of the developments are new software programs:

■ **PRODIAG**, developed by Jaques Reifman (RA) and Tom Wei (RE), monitors thermal-hydraulic processes and identifies faulty components, such as clogged filters and pipe breaks, in real time during off-normal process operating conditions.

Intended originally for diagnos-

ing off-normal process conditions in nuclear power plants, PRODIAG has a wide range of process-industry application.

PRODIAG's diagnostic system continuously receives process data — such as fluid temperature, pressure, flow and level — from the plant and identifies the components whose failure has caused the off-normal plant condition — for example, a break in this heat exchanger, a clogged piping in that filter, or an inadvertent opening of a particular valve.

■ **MSET** ("Multivariate State Estimation Technique"), developed by Ralph Singer, Kenny Gross and Stephan Wegerich (all RA), is an early-warning expert system for monitoring the performance of sensors, equipment and plant processes.

This extremely sensitive system detects the smallest developing faults at the earliest possible time and alerts operators, substantially enhancing system safety, availability and operating efficiency for a

(Continued on page 2)



EXPERTS — From left to right are Ralph Singer, Kenny Gross and Stephan Wegerich (all RA), inventors of the MSET expert system.



SOFTWARE PROS — Tom Wei (RE), left, and Jaques Reifman (RA) run the PRODIAG diagnostic software through its paces. These technologies were named by *R&D Magazine* as three of the top 100 developments of 1998.

Used books wanted for Appeal sale

The Argonne Combined Appeal (ACA) will collect used books during the month of August for its second annual used book sale to be held Sept. 10-11.

Collection boxes will be in the lobbies of Buildings 201, 203, 401 and 900. Textbooks, magazines, encyclopedias or Reader's Digest condensed books cannot be accepted.



Booklovers browsed through more than 6,000 donated books at last year's used book fair, which raised nearly \$2,500.

The ACA gives employees an opportunity to support nonprofit health and welfare agencies that help people in need, and to establish a method for employees to conveniently contribute to one or more agencies

Employees can participate in the voluntary program through payroll deductions or by one-time cash contributions. Payroll deduction permits contributions to be deducted in regular installments throughout the year, allocated to recipient agencies according to each employee's instructions. Employees choosing this form of participation sign a card authorizing payroll deductions. Cash contributions are also accepted.

Employees may join the ACA at any time by completing a pledge card, available from Payroll, Building 201, ext. 2-8020.

For more information, see the ACA home page at <http://www.anl.gov/ACA/aca-home.html>.



FUTURE FIREFIGHTER — Betsy Grace tries on a firefighter's coat and hat with the help of Lt. Sam Giordano (ESH-FD). At right, Steven Jacqu  (right) and Karl Kundman try out a two-inch hose with the help of firefighters Robert Gramlich (left) and Jay Rivette (both ESH-FD).



FIVE ALIVE — Above, Firefighter Robert Gramlich (ESH-FD) gets a high-five from Shareef Amer.



Fire department visits Argonne's day campers

The Argonne Fire Department visited the laboratory's day-camp program at Argonne-East's Building 951 recently to spread the word about fire safety and teach the children how best to respond to fires.

Firefighter Robert Gramlich (ESH-FD) suited up in full gear to show the children what a firefighter looks and sounds like

when fully equipped, as Lt. Sam Giordano (ESH-FD) explained the function of each item of equipment. In addition to being fun for the kids, demonstrations like this could help prevent tragedies, Giordano said.

"The way a firefighter looks could be frightening for a kid in a fire," Giordano said. "Kids tend to hide in that situation, especially when they see what looks like a monster crawl-

ing toward them. We'd like them to be familiar with how we look and sound so they don't hide in closets and toy boxes."

The children also learned about smoke detectors, how to react if their clothing catches fire, and how stay low to avoid smoke. They also got close-up looks at a fire engine and a paramedic vehicle.

New technologies recognized by *R&D* magazine

(Continued from page 1)

wide range of applications in utilities, aerospace, industrial and other settings.

In the power industry alone,

where downtime can cost up to \$1 million per day, MSET enhances plant safety while significantly minimizing the costs of generating electricity. The expert system

will benefit consumers and electricity-intensive industries, thereby indirectly enhancing job creation and retention in many industries.

Seminar to cover environmental degree program

A new environmental management master's degree program offered by the Illinois Institute of Technology will be the topic of a seminar on Tuesday, July 28.

George Nassos of IIT's Stuart School of Business will discuss the program from noon to 1 p.m. in Argonne-East's Building 201, Room 238. This program is the only one

of its kind in the Chicago area, and one of the few in the U.S. to encompass business, law and science. The program comprises 14 courses, all offered in the evening.

Pacesetters

Lee honored for effort on ANL-W cleanup study

Scott Lee (ED) received a Pacesetter Award for his extraordinary effort in preparing the Comprehensive Remedial Investigation/Feasibility Study, the proposed plan and public hearings related to cleanup activities at Argonne-West. This work, completed far ahead of schedule, is typically performed by at least four environmental engineers at other DOE facilities.

Douglas takes extra workload at D.C. office

Barbara Douglas (DEP) was honored for personal initiative and extraordinary effort in maintaining important functions of Argonne's Washington, D.C., office, including coordination with the U.S. State Department, while the office was short of staff.

Munson cited for work on new ATLAS controls

Floyd Munson (PHY) won a Pacesetter Award for extraordinary effort and innovative approaches in the development and implementation of the new VISTA control system at the Argonne Tandem Linear Accelerator System (ATLAS). Munson's innovative efforts allowed the new system to operate in tandem with the 20-year-old original equipment, keeping databases current and accomplishing the switchover at minimum cost — saving an estimated \$500,000.

Employees can earn Pacesetter Awards for extraordinary effort in meeting or exceeding difficult deadlines or demands of a technical, administrative or sponsor-related nature. Pacesetters are also awarded for innovations, discoveries, program development and cost-cutting suggestions. Each award consists of \$500 and a distinctive pin.

In Memoriam

Michael P. Agresta, a project quality engineer in the Quality Assurance Division with 14 years of service, died April 6. He is survived by his wife, Ann.

James W. Armstrong, a mail services supervisor in the General Services Division who retired in 1981 with 36 years of service, died Jan. 9. He is survived by his wife, Elizabeth.

Joseph E. Cantlin, an instrument welder in the Central Shops Division who retired in 1982 with 26 years of service, died April 5. He is survived by his wife, Helen.

Peter P. Chiappetta, an electrician in the Plant Operations Division who retired in 1977 with 23 years of service, died June 23. He is survived by his wife, Helen.

Thomas Corbett, a reclamation mechanic in the Plant Facilities and Services Division with 38 years of service, died March 7. He is survived by his wife Doris.

Robert Dalman, an AMOS administrator in the OCF—Procurement Department died Feb. 12 with 28 years of service. He is survived by his wife Pamela and his daughters Laurie Dalman and

Gina Maleckas.

Louis Demko, an instrument machinist in the Central Shops Division died April 26 with 23 years of service.

Donald R. Fredrickson, a scientific associate in the Chemical Technology Division who retired in 1991 with 39 years of service, died May 18. He is survived by his wife Margaret.

Leroy Carl Gunn, a chief buyer in the Procurement Division with 32 years of service, died Jan 17. He is survived by his children Steven and Kathlyn Gunn.

Paul R. Hirsch, a mechanical engineer in the Plant Facilities and Services Division died March 2 with 34 years of service. He is survived by his wife Lola.

Theodore C. Johnson, an instrument welder in the Central Shops Division with 24 years of service died May 11. He is survived by his wife Ethel.

Robert Mogill, a shop foreman in the Central Shops Division died Feb. 25 with 34 years of service. He is survived by his wife Bernice.

Darwin D. Ness, of the Envi-

ronmental Research Division died April 7 with 11 years of service. He is survived by his wife Dolores.

Cornelius H. O'Grady, a dispatcher in the Supply Division who retired in 1981 with 34 years of service, died April 29. He is survived by his wife Theresa.

William C. Redman, a senior physicist in the Office of the Director retired in 1985 with 37 years of service. He is survived by his wife Eileen and by his children Tim, Brian and Marilyn Redman.

Caleb C. Springs, a graphics illustrator in the Graphic Arts Division who retired in 1985 with 41 years of service, died March 31. He is survived by his wife Geraldine.

George A. Whittington, a senior technical editor in the Engineering Division died May 6 with 6 years of service. He is survived by his wife Katherine.

Jacqueline Williams, a scientific associate in the Chemical Engineering Division who retired in 1982 with 35 years of service, died Feb. 10. She is survived by her nephew Joseph McCulloch.

Biochemist Fritz Schlenk dies at 88

Fritz Schlenk, retired Argonne researcher in the biomedical division, died July 13 at the age of 88.

Schlenk, a biochemist who performed basic research, was influential among medical researchers who applied his study of transamination, a complex enzyme re-



Schlenk in 1963

action, to measuring levels of enzymes to determine tissue damage to the heart and liver.

He was a faculty member for 20 years at the University of Chicago, and most recently taught at the University of Illinois at Chicago, retiring in 1985.

Schlenk won the Pasteur Award of the Illinois Society for Microbiology in 1966 for his contributions in research and teaching.

Seminars

Send seminar listings to Evie Fagan, Building 201, Room 2U-09 (OPA-201). Deadline is 5 p.m. Monday. Seminar listings *only* can be sent by e-mail to efagan@anl.gov. Note new e-mail address.

Monday, July 27

Materials Science Division Seminar: **"Proximity Effects and Interface Transparency in Superconductor/Ferromagnet Multilayers"** by Marjo Geers, Kamerlingh Onnes Laboratory, Leiden University, The Netherlands. 11 a.m., Bldg. 223, Conference Room S105.

Center for Mechanistic Biology & Biotechnology General Seminar: **"Towards Automated (or at least ultra-fast) Protein Structure: The World According to wARP"** by Anastassis Perrakis, Department of Chemistry, EMBL Grenoble, France. 2 p.m., Bldg. 202, Conference Room B169.

Thursday, July 29

Joint Chemistry and Materials Science Divisions Seminar: **"The Formation and Time Evolution of Clusters During Ion Sputtering of Solids"** by Igor V. Veryovkin, Department of Chemistry, University of Antwerp, Belgium. 10 a.m., Bldg. 200, Conference Room J183.

Thursday, July 30

Chemistry Division Seminar: **"Shock Tube Studies of Pyrolytic and Oxidative Reactions of Cyclic C5-Hydrocarbons"** by Peter Frank, German Aerospace Center (DLR), University of Stuttgart, Germany, 11 a.m., Bldg. 200, Conference Room J183.

Thursday, August 6

Special Physics Division Seminar: **"Dynamical Theory of Synthesis of Super Heavy Elements"** by Yasuhisa Abe, Kyoto University, Tokyo, Japan. 3:30 p.m., Bldg. 203, Conference Room B221.

Monday, August 10

High Energy Physics Division Theoretical Physics Seminar: **"Mass and Decay of the Lowest Glueball in QCD"** by Tao Huang, Institute of High Energy Physics, Beijing, P.R. China. 2 p.m., Bldg. 362, Conference Room E188.

Deadlines

News items, seminar listings and classified ads must be received at the Argonne News office by 5 p.m. Monday for the issue of the following Monday.

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Classified ad dropoffs are at
Building 201, Rooms 2U-09 and 2Q-02

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Classified Ads

MISCELLANEOUS

BICYCLE — Raleigh 502 touring bike, Grand Prix, w/pump, basket, storage rack & helmet. \$100 o.b.o. Eric Parks, (630) 325-3541.

BED — Double bed, mattress, box springs & frame, good condition. \$75 o.b.o. Chuck Mansfield, (815) 254-0619.

DRYER — Kenmore gas dryer, harvest gold, good condition. \$40. Laurie, (708) 598-8641.

MISCELLANEOUS — Bike carrier for car trunk mounting. \$10. Pair of Mustang water skis. \$20. Reese trailer hitch, 3,600 lb. maximum trailer weight. \$25. Connie Pittroff, (630) 323-6509.

VANITY & SINK — Bathroom, oak cabinet w/cream & rose top & splash w/gold faucet, 37" x 22", excellent condition. \$75. Laura Reigle, (630) 739-3756.

MISCELLANEOUS — Kitchen Aid mixer, cobalt blue. \$100. Lazy Boy love seat sofa. \$100. Fred Kirchner, (630) 548-3682.

SOUND SYSTEM — Harman Kardon AVR 20II digital surround receiver w/continuous dual cassette player, includes power amp antenna & 2 DCM KX-12 speakers w/1 DCM KX center 3-way speaker, less than 1 year old. New \$1,300 - asking \$975. Barbara Burke, (815) 458-2399.

MOVING SALE — Sofa bed, kitchen table & 2 chairs, bean bag chair, chair/sleeper, 2-drawer file cabinet, 2, 3-shelf bookcases, wicker chair, typewriter, small Weber grill. \$2 - \$25/each. Sue Fischer, (630) 435-0934.

MISCELLANEOUS — VCR. \$50. Portable stereo. \$50. Electric grill. \$20. Lamp. \$15. Vacuum cleaner. \$40. Telephone, answering machine. \$20. Michel Van Veenendaal, (773) 529-5404.

MISCELLANEOUS — 8' pool table, slate. \$300. Sofa, love seat, chair & table. \$150. Toro lawnmower w/side discharge. \$25. Mary Donovan, (815) 485-5553.

SOFA-BED — 78" long, good condition, full size mattress. \$250. Albert Fischer, (708) 246-4389.

MISCELLANEOUS — Mahogany, 7-drawer desk, decent condition. \$40. Smith-Corona portable electric typewriter, like new. New \$400 - asking \$40. Sunbeam pie maker, used a couple of times. New \$35 - asking \$15. Hanksraft steam vaporizer. \$3. 2, double size, electric blankets, clean & working well. \$5/each. Paul Kurpis, (630) 971-1322.

MISCELLANEOUS — Shoulder strap handbag, Ralph Lauren, soft light blue denim w/leather trim. \$35. Intellivision game w/25 cartridges. \$50. Martha Teitlus, (708) 233-2654.

GOLF CLUBS — Adams Tight Lies, strong 3 graphite shaft, tour wrap grip. \$150. Alien sand wedge. \$60. David Engel, (630) 305-0457.

WASHER — Whirlpool, regular capacity, 2-speed, 4-cycle. \$100. Yvette Collazo, (630) 910-6721.

MISCELLANEOUS — Exercise bike, excellent condition, hardly used. \$50. Lowrey organ w/bench. \$100. Denise Voss, (815) 485-4991.

DEHUMIDIFIER — Removes up to 25 pints of moisture from air per day, auto-

Classified ad request forms are available in stockrooms, at the Office of Public Affairs in Building 201, and at Argonne-West's Building 752, Room D109. The old half-sheet forms are acceptable, but note that the deadline is incorrect. Deadline for classified ads is **5 p.m. Monday**.

Requests can be submitted by fax to ext. 2-5274, or by inter-office mail to Evie Fagan, Building 201, Room 2U-09 (OPA-201). A drop-off box is located at the *Argonne News* office, Building 201, room 2Q-02 and at 2U-09.

Request forms must be signed and must include a home phone number. Ads cannot be accepted by phone or electronic mail. Please limit ads to 25 words; longer ads may be edited. Housing listed for sale or rent is available without regard to race, creed, color or national origin.

Argonne-West employees are welcome to submit classified ads to *Argonne News*. Request forms are available at the office of Argonne-West Correspondent Dolores Lagerquist, Building 752, Room D109. When completed, fax the request form to the *Argonne News* office at (630) 252-5274.

matic humidity & water tank level control. \$35. Richard Konecny, (630) 964-3660.

STORAGE BOXES — Slide storage boxes, metal, holds 150 slides in each box. \$2/each. Peter Turula, (630) 968-3527.

MOTORCYCLE — Suzuki Marauder VZ 800, maroon & white, new, less than 10 miles on odometer. \$5,200. Peter Bertoncini, (708) 749-8240.

MOTORCYCLE — Suzuki 185, electric start. \$500. Jim LaFevers, (815) 436-4106.

LAWN/GARDEN TRACTOR — Large Ariens tractor, 3-blades, 48" mower deck, snow blade, PTO, hydraulic, electric start. \$600. Jim LaFevers, (815) 436-4106.

WASHER/DRYER — Sears best, heavy duty. \$100. Jim LaFevers, (815) 436-4106.

SAILBOARD — BIC sailboard/windsurf board, very good shape, light, good beginner board. \$300 o.b.o. Dee Wernette, (630) 325-2648.

WATERBED — Complete, queen size w/heater, waterbed kit, 2 sheet sets, mattress pad & sheet connectors. \$100. Ed Kemereit, (630) 766-1529.

MISCELLANEOUS — 3, bar stools. \$15. Wicker type swag light. \$12. Gas grill w/direct gas hook up. \$40. Laurie Scheiblein, (815) 838-2706.

LOVE SEATS — 2, plush velveteen fabric, contemporary brown & blue pattern, very good condition. \$200 o.b.o. Kathy O'Brien, (708) 481-6035.

WORD PROCESSOR — Brother, Whisper Writer, model 7000, complete w/monitor, manual. \$175. Dale Mohr, (630) 305-7265.

TOP SOIL — Top quality, fine grain, ordered a truck load & have too much. \$1/per full wheel barrow. Jill Jonkouski, (773) 586-1664.

AIR CONDITIONERS — 2, window units, 12,000 BTUs. \$300/each. Andrea Robinson, (630) 690-5074 - after 6 p.m.

COMPUTER & PARTS — Pent-100, 16 MB-EDP-RAM, Diamond Stealth 64 w/2 MB-VRAM, Mid Tower, Pro Audio Spectrum 16 sound board, 1280 & 204 MB hard disks, 386 DX 33, 4 MB-RAM, Full Tower, 210 MB hard disk, Trident SVGA video, 2400 bps modem, View Sonic 6 14" SVGA monitor. Gold Star, 14" VGA monitor. 16 MB-EDO-RAM, 4, 1 MB, 70NS SIMMS, US Robotics 33.6 & 14.4 KBPS modems. Nick Amendola, (630) 846-2199.

AUTOMOBILES

1993 PONTIAC — Grand Am GT, AT, PW, PDL, AM/FM cassette, \$7,300. Kim Smith, (815) 254-0619.

1988 OLDSMOBILE — Cierra, 4-door, Brougham interior, very good condition, new brakes & rotors, engine requires no oil between changes, good work car. \$1,400 o.b.o. Dick Ebeling, (630) 896-4941.

1989 GMC — Red Vandura 2500 cargo van, 8 cyl., good tires, new battery, finished interior, 75K miles, hitch w/electric brake & transmission oil cooler. \$5,900. Barbara Burke, (815) 458-2399.

1996 TOYOTA — Camry LE, sedan, 4 cyl., AT, loaded, extra clean, 46K miles, new tires, security system. \$14,400 o.b.o. Kris Rogacki, (815) 756-5676.

1993 CHEVROLET — S-10 Blazer, 4 x 4, Tahoe package, 6 cyl., 4.3 L, AT, PS, PB, PM, PW, PDL, AC, cruise control, tilt steering, AM/FM stereo cassette, velour/cloth seats, new tires, brakes & battery. \$11,500. Mark Jilek, (815) 436-0152.

1987 NISSAN — Sentra — 5-speed, new exhaust, new battery, 128K miles, sedan. \$800 - negotiable. Michel Van Veenendaal, (773) 529-5404.

1996 BLAZER — 2-door, 2 wheel drive, CD player, PW, PS, alarm, 29K miles, 7K miles on warranty. \$17,500. Connie Rekar, (708) 423-8346.

1992 CHEVROLET — Cavalier, 98K miles, teal, engine in excellent condition, runs well, AC, cruise, AT, PS, AM/FM stereo cassette, ABS, extra clean in & out, no rust, new brakes & tires. \$4,000. Jammes, (630) 427-1017.

1983 CHEVROLET — Celebrity, 87K miles, runs well, average condition. \$1,200 o.b.o. Jill Jonkouski, (773) 586-1664.

1986 CADILLAC — Eldorado, dark blue, leather seats, fully automatic, very comfortable car, 79K miles, good condition. \$4,000 o.b.o. Itacil Gomes, (630) 305-3257.

1987 FORD — Tempo, 4-door, AT, new battery & tires, 130K miles, runs reliably, great first car. \$1,200 o.b.o. Ranjini Chatterjee, (847) 698-6955.

1987 FORD — Conversion van, hi-top 302 V8, excellent condition, loaded, 75K miles, 4 captain chairs, folding rear seat into bed, color TV, CB radio, excellent tires, brakes & exhaust system. \$4,300 o.b.o. Dale Mohr, (630) 305-7265.

1993 FORD — Taurus, AC, full power, cruise control, new tires & battery, 80K miles. \$5,600 o.b.o. Di Wei, (630) 241-4264.

HOUSING

HOUSE/SALE — 8315 Helen Court, Downers Grove, IL., 10 minutes from lab., 2-story, 3,250 sq. ft., 3 bedrooms, 2 baths on second floor, kitchen w/dinette, family room, formal dining room, living room, bath on main floor, finished basement. \$249,900. John Hansen, (208) 523-4445.

HOUSE/SALE — 2 bedroom bungalow, southeast Oak Park, art glass, hardwood floors, tastefully remodeled kitchen, expandable attic very clean full basement w/linoleum floor. Open house, July 26, noon - 2 p.m., 1143 S. Lyman Street. \$135,000. Cathy Kaicher, (708) 383-4792.

VACATION LOTS/SALE — Walden-on-Lake Conroe, about 40 miles NW of Houston, TX, all amenities, e.g., tennis, golf, swimming. \$2,500 - \$3,500. Carlos Melendres, (630) 257-5059.

WANTED

TEENIE BEANIE BABIES — Looking for no's. 1, 2, 3, 4 & 8. Will purchase or trade for #6 (Happy), #11 (Waddle) or #12 (Peanut). Jill Jonkouski, (773) 586-1664.

ROOMMATE — To share 3 bedroom house w/single mom, Romeoville, includes all utilities, 15-20 minutes to lab. \$425/month. Joanne Thomas, (815) 723-0681.

GOLF CLUBS — Standard size Taylor Made metal woods w/steel shafts, preferably Dynamic Gold S300's. Bruce Stockmeier, (847) 593-0063.

FOUND

TOTE BAG — Found near Northgate Road, Thur. late afternoon. Please identify. Evie Fagan, 2-5578.

TO BE GIVEN AWAY

KITTENS — Tabby, 2 female kittens, 9 weeks old, along with 1-2 year old mom, healthy, friendly & groomed, ready for good home(s). Joanne Thomas, (815) 723-0681.

COMPUTER — 286 w/color monitor & Dot Matrix printer, lots of software & games. Anand Rao, (312) 326-5682.

MISCELLANEOUS — Turtle & goldfish w/tank, filter & pump, 2 years old, healthy. Anand Rao, (312) 326-5682.

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